

QUARTERLY REPORT

Third quarter FY 2001 (No. 8)

Guatemala Mitch Special Objective: Rural Economy Recovers from Mitch and is Less Vulnerable to Disasters

Summary: U.S. grant assistance under the Hurricane Mitch Special Objective (SpO) is helping Guatemala's rural economy recover from the devastation brought on by the hurricane while offering technical support and other assistance to help the rural communities both mitigate effects of the disaster and better prepare for future disasters. This update for the quarter ending 30 June 2001 demonstrates that USAID and its partners are achieving planned results and are on track to complete the program on schedule.

Key Intermediate Results: (1) Disaster preparedness enhanced; (2) Agricultural productivity recovered on more sustainable basis; (3) Community disease prevention and control systems strengthened.

Quarter Highlights:

- (1) **April 17, 2001** Central American Mitigation Initiative (CAMI) coordination meeting of agencies working in Guatemala, held at USAID. Participating agencies included OFDA/Washington, American Red Cross, CARE, CRS, CHF, USGS, University of Idaho represented by Cordon y Merida of Guatemala, USAID.
- (2) **April 26, 2001** CARE inaugurates first Mitch-financed water system in Cojila, Coban. The system serves the communities of Cojila and Sotzil, a total of 700 households.
- (3) **May 1-4, 2001** CDC Regional Field Epidemiology Training Program, Second Workshop, held in Antigua, Guatemala.
- (4) **May 23, 2001** FEMA, with is Guatemala partner, CRS, inaugurates first Project Impact activity at Taxisco.
- (5) **June 12, 2001** USAID and the Ministry of Agriculture (MAGA) formally inaugurate and hand over the flood protection infrastructure designed by the US Army Corps of Engineers and constructed with USAID funds through MAGA to the community at Quirigua.

IR 1: Disaster Preparedness Enhanced

Key Intermediate Results: (1) Mapping, data collection, and targeting most vulnerable communities; (2) community organizations strengthened; (3) CONRED network strengthened.

Performance and Prospects: USAID resources directed at IR 1.1 and IR 1.3 in support of the CONRED system have been fully utilized. All that remains is some of the CAMI funds assigned to the Mission for the equipping of CONRED facilities and the training of CONRED personnel. Over the previous several quarters, about two thirds of the \$500,000 of CAMI funds for equipping CONRED have been expended. During the just completed quarter, a request for proposals was readied and cleared for a training component designed to complement the equipment and technical assistance that has already been provided. The request for proposals seeks a contractor to carry out training of CONRED departmental delegates and municipal coordinating units in emergency management principals and search and rescue techniques. Training start-up is targeted for fourth quarter FY 2001.

FEMA, which is providing services to this IR under its Inter-Agency Agreement (IAA), was active during the quarter. Their work plan calls for providing two kinds of assistance to disaster preparedness in Guatemala. First, FEMA is providing technical and material assistance to CONRED. Over previous quarters, assistance provided has consisted of design and technology lay out planning for CONRED's Emergency Operations (EOC) Center. This FEMA work was the basis for USAID's equipment purchase for the EOC. FEMA also assisted CONRED in finalizing the regulations for the 1996 law that made it



Taxisco, May 23, 2001. FEMA and CRS inaugurate the first of two Project Impact activities. The community of Providencia identified the project, and its viability was determined in consultation with FEMA. The 250-meter dyke is intended to protect 25 homes in the community from annual flooding. The community provided labor, and FEMA covered the other construction costs.

a civilian agency, as well as helping to develop CONRED's public affairs and communications manual. The second area is the implementation of FEMA Project Impact activities in Guatemala. Project Impact is a stateside pilot project activity in which

FEMA works closely with selected at-risk communities to identify and implement disaster mitigation activities, which quite often are infrastructure. In Guatemala, FEMA is adapting the approach by working with CRS in two communities. During the quarter, under its first area of emphasis FEMA provided technical and material assistance to CONRED to help hook up computer servers for its local area network (LAN) and delivered and installed a firewall for the protection of CONRED's LAN. On Project Impact, locally known as "Proyecto Impacto," FEMA and CRS inaugurated the first activity, the completion of a flood protection dyke in the community of Providencia in Taxisco, Santa Rosa, on May 23, 2001. The second project underway is raising and flood-proofing 45 homes in the communities of Garitón and El Sunso along the Chiquimulilla canal.

Meanwhile, IR 1.2 *Community Organizations Strengthened*, both CRS and CARE made good progress this quarter toward their targets.

The CRS target for the life of the SpO is to develop disaster-coordinating committees in 100 communities. CRS' accumulative progress this quarter is:

- Identified 52 communities in which to form local community disaster coordination committees (COLRED) during 2001 (with the 51 formed in 2000 the life of project total for CRS will=103 committees).
- Have legalized COLRED in 48 communities.
- Held a total of 313 training sessions at COLRED level on disaster preparedness techniques, reaching a total of 2,340 persons trained.
- Emergency action plans completed in 54 COLRED.
- Conducted 16 disaster drills during the quarter.
- In the municipality of Zacapa, with the fire department, carried out a four-day course on first aid, evacuation and rescue. Twelve community facilitators participated, along with 5 CRS staffers, and 4 partner organization staffers.
- Developed a plan for the installation of six flood early warning systems. Sites will be selected in coordination with INSIVUMEH and CONRED.

CARE has met its original target of forming 5 municipal (COMRED) and 25 community disaster coordination (COLRED) committees (30 total), and developing risk maps and emergency management plans for each. Last quarter, CARE modified its target to include a sixth municipality, Purulhá in the Matanzas watershed with fifteen additional local communities. Activities are underway to train and form the COMRED in Purulhá, and COLREDS in the additional 15 communities. By the end of the program, CARE will have formed a total of 6 COMREDS and 40 COLREDS, exceeding the original target by 16 coordination units.

CARE, working with the six municipalities and the original 25 local communities, has developed disaster preparedness plans for each community including risk maps, for a total of 31 disaster plans readied. Also, CARE has installed in each of the six municipalities of the Polochic watershed, a radio communications system and a meteorological station for flood early warning.

CARE's cumulative achievements are:

- Forty-six (6 municipal COMRED and 40 community COLRED) committees formed, legalized, and trained in the cycle of disasters and in development of emergency disaster plans for the community.
- In coordination with CONRED installed 6 radio and 6 meteorological stations to function as early warning systems.

Of Special Note: On April 17, 2001 OFDA/Washington convened in Guatemala a coordination meeting of agencies receiving Central America Mitigation Initiative (CAMI) financing for Guatemala. Participating agencies include the American Red Cross, CARE, CRS, CHF, USGS, University of Idaho (represented in Guatemala by Cordon y Merida) and USAID. OFDA and the participating agencies have signed contract agreements with most agencies beginning their CAMI work in May and June 2001. Most work plans run to 2003, and serve to extend the work initiated in disaster preparedness started under Mitch reconstruction. This first coordination meeting was held to introduce the agencies to each other and to learn about each work plan, and to discuss coordination over the three years of CAMI implementation.

IR 2: Agricultural Productivity Recovered on More Sustainable Basis

Key Intermediate Results: (1) River, land and small scale irrigation systems rehabilitation, (2) Polochic and Motagua watershed management, (3) Seed recovery and multiplication, (4) Microenterprise recovery and credit, (5) Rural road repair in Ixcán, Quiché, and Alta Verapaz.

Performance and Prospects: Most partners continue to make good progress. An exception at this point in the implementation of the program is CRS, now showing evidence of possibly missing some of their targets. A scaling back of a few of the CRS targets will be considered in the course of the next quarter.

IR 2.1 River, land and small scale irrigation systems rehabilitation

USAID partners working to achieve results in this IR include the U.S. Army Corps of Engineers (USACE), the Ministry of Agriculture-Cipreda (MAGA-Cipreda), the National Coffee Growers Association (ANACAFE), the Center for Tropical Agricultural Research and Education (CATIE), and CRS.



Quirigua. This flood protection project was formally handed over to the community during the quarter. This project is the sixth of nine US Army Corps of Engineers designs to be completed under the USAID/Guatemala Mitch reconstruction program. This project, along with the Cahaboncito project and the La Tinta project, combined are protecting 8,400 acres of agricultural land and five communities.

USAID and MAGA-Cipreda will complete eight project designs under the Fixed Amount Reimbursable (FAR) arrangement totaling approximately \$3,888,443. This total includes five FARs sites completed: Santa Lucia at \$780,763; La Playa at \$450,510; Quirigua (both the original work and an amplification) at \$399,341; El Rancho Site 1 at \$186,394; El Rancho Site 2 at \$75,075. FARs under implementation include: Cahaboncito at \$471,500 (these are funds returned from CRS' cooperative agreement for this project) now fifty percent complete; Cabañas at \$1,034,400 now forty percent complete; and El Rancho-El Jicaro at \$482,460. In addition to these FARs, CARE has just completed a

USACE designed-project at La Tinta valued at \$500,000 using funds in its cooperative agreement. In total, nine USACE designs will be implemented.

ANACAFE, under this IR, is assisting communities in Alta Verapaz . Their life of SpO target is to rehabilitate 1,600 hectares of coffee plantations, and rehabilitate 18 coffee processing plants benefiting 14,000 small coffee farmers. ANACAFE has achieved these targets as of the 2nd quarter FY 2001.

Last quarter, CRS requested some changes in targets (see below). These proposed changes will be reviewed in August 2001, and the cooperative agreement amended if USAID concurs..

CRS' four objectives for this IR include: (1) sustainable management of soil, water and forest resources in 25 micro-watersheds (to be reduced to 14 watersheds because of a high concentration of communities); (2) improve crop productivity of 3,000 hectares damaged by Mitch; (3) promote land tenure security in 100 communities (to be reduced to 43 communities) to contribute to sustainable management of soil, water and natural resources; (4) improve income generating capacity of 3,000 farm families.

Cumulative achievements for objective one:

- a) Management plans established in 25 selected micro watersheds = none established to date.
- b) Area reforested/regenerated = 186 hectares (44,894 trees), 57% of target.
- c) Area under agro-forestry = 200 hectares (245,608 trees), 27% of target.

Cumulative achievements for objective two:

- a) Number of farmers planting with improved seed = 1,678 farmers (112% of target).
- b) Hectares under improved practices to date = 985 has. (33% of target).

Cumulative achievements for objective three:

- a) Communities in various stages of land tenure analysis, land measurement, land titling/legalization process=57 (57% of original target).
- b) Communities have completed legalization process for title to land = 0.

Cumulative achievements fourth objective:

- a) Number of community banks trained and operating = 32 (26% of target).
- b) Number of families receiving credit to date = 345 (17% of target)
- c) Producers of improved seeds with ICTA = 55 (110 % of target).
- d) Number of grain storage units (silos) = 303 (61% of target).

Under its IAA the USDA/Forest Service continued its technical assistance to fire management and watershed rehabilitation in the Sierra de las Minas biosphere reserve managed by the "*Fundacion de Defensores de la Naturaleza*" (FDN).

IR 2.2 Polochic watershed management

CARE and MAGA-Cipreda are the two partners working under this IR. CARE's two objectives are: (1) rehabilitation of agricultural and watershed areas through reforestation and improved natural resource management in 270 communities along the Polochic and Cahabon river valleys and their tributaries, and (2) assist 10,800 farming families from 270 communities in the departments of Alta and Baja Verapaz adopt soil conservation, agroforestry and diversified agricultural techniques. Under its first objective CARE is targeting 8 results. A cumulative summary of achievements including this quarter is as follows:

- 1) SpO Target: work with five municipalities to develop land use planning maps – Cumulative result: completed five 1:50,000 scale thematic cartography maps for San Pedro Carchá, Lanquín, Cahabón, Panzos, and Senahú. The information is digitized and contains data on soil characteristics and use, conflicts, social maps, population pressure on resources, economic aspects. In early June, received Geographic Information System training from the USGS to broaden skills in use of the digitized maps.
- 2) SpO Target: develop an environmental education program for 2,600 primary school kids in 52 schools. Cumulative Result: Design of an Environmental Education Curriculum and Manual for 3rd through 6th graders. Program was designed and to date a total of 3,000 students in 64 schools have participated.
- 3) SpO Target: develop a municipal strategy for forest fire prevention and control – Cumulative Result: 55 extension workers and 540 forestry promoters trained in 240 communities in forest fire prevention and fire fighting; a campaign organized.
- 4) SpO Target: develop forest management plans in four intervention municipalities, including identifying and training a municipal forestry technician. Cumulative Result: Two forest management plans completed for San Pedro Carchá, and San Miguel Tucuru, and 40% complete for Panzos and Lanquín. Municipal offices in the four municipalities participating in the Forestry Technician training program have been strengthened.
- 5) SpO Target: develop a training program for 12 municipal forestry technicians. Cumulative Result: A proposal for the training course was being reviewed by INAB, the National Forest Service, in January. One seminar for municipal forestry technicians on forest management and forest inventories was conducted.
- 6) SpO Target: develop a reforestation incentive scheme for 669 hectares in 270 communities paying \$488,185 to 2,851 families who will also plant 712,750 multipurpose (pine, cyprus, maple) trees. Cumulative Result: 240 communities organized, 2,703 families benefited, 750,000 seedlings distributed for a total of 662 hectares reforested, \$225,016 of forestry incentives paid out.
- 7) SpO Target: 2,851 families adopt rational use of forest resources. Cumulative Result: Training of 2,973 families on forest management topics continues; 55 municipal extension workers and 540 forestry promoters trained in soil conservation, crop diversification, analysis of the use, sub-use and over-use of soils, and forestry incentives. Goal achieved and through follow-up field visits the themes are being reinforced.

- 8) SpO Target: strengthen the capacity of the 15 municipal governments in the two Verapaz departments in natural resource management. Cumulative Result: A training plan has been developed divided into sectors based on Polochic sub-watershed areas.

Under its second objective CARE is targeting 2 results. Cumulative achievements to date are as follows:

- 1) SpO Target: Reforestation adopted by 5,680 families who will plant 688,936 coffee, macadamia, cacao, citrus, and allspice trees; 2,700 families will plant 35,100 multi-purpose shade trees. Cumulative Result: 5,680 families have planted 758,050 (coffee, avocado, macademia, allspice) trees planted on a total of 253 hectares; 60,198 shade trees (ingas and red cedar) have been planted benefiting 2,580 families.
- 2) SpO Target: soil conservation techniques imparted to 1,340 families; 37 extensionists and 486 promoters trained; 174,000 vegetative soil protection materials distributed. Cumulative Result: 1,400 families have been trained in soil conservation techniques; 42 extensionists and 540 promoters trained; 201,000 vegetative soil protection materials distributed (pineapple, vetiver, and flower shoots).

Additionally, CARE has distributed 966,900 lbs. of organic fertilizer against a target of 500,000 lbs. Also, CARE is completing two small-scale irrigation systems that will service about 69 acres, against a target of six systems planned.

Under sub-contracts with CARE, SHARE, “*Fundacion de Defensores de la Naturaleza*” (Defenders of Nature) (FDN) and the Solar Foundation also continue to implement their respective workplans.

FDN is implementing a work plan that has two results. They are:

- 1) Rehabilitate watersheds and agricultural areas in the Sierra de las Minas Biosphere Reserve (SMBR) by reforesting 10 hectares, training 150 families in 15 communities in forest management practices and development and diffusion of a campaign for the prevention and combating of forest fires. Cumulative result: 45 hectares reforested. Forest management training given in 9 communities. Forest fire campaign on radio for four months along with publication and distribution of 1000 posters, 2000 brochures and forest fire training conferences held in 5 communities.
- 2) Orient 375 agricultural families in the SMBR toward sustainable agricultural practices. Cumulative result: Seven workshops held on agro-forestry methodologies. Coffee seed nurseries started with 3000 lbs. of coffee seed. Organic fertilizers distributed.

The Solar Foundation is installing 812 photovoltaic for electric energy production and installing 812 improved cook stoves (that use fire wood efficiently) in 14 communities. Cumulative result: Installed 812 photovoltaic systems and 812 improved cook stoves. Community committees formed and trained in 14 communities to oversee maintenance, spare parts, and bookkeeping.

SHARE is working to achieve two results. First, the agency is rehabilitating 550 hectares of at risk and degraded land in the Motagua watershed through reforestation and improved natural resources management. Second, SHARE is helping 600 small farm families recover their agricultural production through the adoption of sustainable agricultural practices including agro-forestry. Cumulative results: (1) Distributed 220 wood-saving cook stoves in two communities, and distributed 960,000 forest and fruit trees. (2) Trained 120 promoters in the use of green fertilizers, and distributed 844,000 fruit trees.

IR 2.3 Seed recovery and multiplication

The Ministry of Agriculture, through Cipreda and its technology unit ICTA, is the partner for this IR. MAGA-Cipreda-ICTA signed a project implementation letter for \$1.0 million for seed recovery and multiplication.

During the quarter, MAGA-Cipreda-ICTA continued the implementation of the program, which will bring improved seed to 17,000 producers who lost seed stocks during Mitch. MAGA-Cipreda-ICTA is producing improved seed for corn, rice, black bean, potato, and sesame. The process involves several steps. ICTA is producing an initial base seed, and multiplying it as a registered seed. The next step involves training farmers to further multiply the seed producing certified seed. To date, ICTA has trained over 1000 farmers working through CARE, CRS, the Peace Corps and other groups, and is achieving results with respect to certified seed production. ICTA's production targets for certified seed for each seed type are corn= 430,000 lbs.; bean= 50,000 lbs.; rice= 200,000 lbs.; potato= 200,000 lbs.; sesame= 15,000 lbs.

- Cumulative achievement to date for each crop is corn= 322,500 lbs. (75% of target); rice= 144,000 lbs. (72% of target); sesame= 3000 lbs. (20% of target); bean= 44,500 lbs. (89% of target); potato= (planted in May).

ICTA projects reaching 100% of target for all crops by September 2001.

IR 2.4 Microenterprise recovery and credit

- MAGA-BANRURAL is the main partner for the \$2 million provided under a project implementation letter. To date, MAGA- BANRURAL has extended \$2,000,000 in micro enterprise credits benefiting 13,200 families (200 over the original target). This activity includes working capital for marketing activities related to cardamom and coffee processing plants as well as commercialization activities. All of the cardamom and coffee producers are members of the Las Verapaces Cooperatives Federation (FEDECOVERA).

IR 2.5 Rural road repair in Ixcán, Quiché, and Alta Verapaz

ANACAFE, under its \$3 million Cooperative Agreement is the largest partner for this IR. Their SpO targets include: 130 kilometers of road rehabilitated that will benefit 52,000 small coffee growers. The USAID road engineer continues to monitor the technical progress of the work. His accurate measure of ANACAFE's original programmed road

length reveals that a revised program length of 88.40 kilometers is the correct target. In that regard, ANACAFE has to date:

- Rehabilitated 81.80 kilometers of road.

Comment: As reported last quarter, ANACAFE still intends to achieve the original 130 kilometer target, using multiple agreements with municipalities. At least six municipalities have come forward to express an interest in negotiating agreements with ANACAFE to co-finance rehabilitation of road segments beyond those targeted under the original Mitch funding. To date, three municipalities (Santa Cruz, Alta Verapaz, Cahabon, and San Pedro Carcha) have entered into agreements with ANACAFE. These agreements will extend the amount of road rehabilitated by ANACAFE to at least their original 130-kilometer target, if not beyond it.

Through its \$1.95 million Cooperative Agreement, CHF is rehabilitating rural roads and bridges in Ixcán. Their SpO targets are: (1) reconstruct 13 concrete vehicular bridges; (2) reconstruct one Bailey vehicular bridge, (3) repair one Bailey vehicular bridge, and (4) reconstruct 100 kilometers of gravel roadway (the Northern Transversal Highway).

Cumulative achievements are:

- Eleven bridges completed and open to regular traffic.
- Install one bridge (Santa Maria Dolores Bailey Bridge) underway; 65% complete.
- Repair of one Bailey bridge (Xalbal Bridge) completed.



Ixcán. CHF repaired the 25-ton limit Xalbal Bailey Bridge that traverses the river of the same name, along the Northern Transversal Highway. The bridge was damaged in Mitch and was back in service in late 2000. While out of service, over 30,000 people on the western side of the Xalbal River were isolated.

- Rehabilitated 90 kilometers of the Northern Transversal Highway, almost completed (the remaining few kilometers will be completed as soon as CHF and USAID reach agreement with the Ministry of Transportation on the terms for road maintenance).

IR 3: Community Disease Prevention and Control Systems Strengthened

Key Intermediate Results: (1) Local malaria prevention and control programs strengthened, (2) Household water and sanitation programs established in selected areas, and (3) Capacity to prevent and control infectious diseases enhanced.

Performance and Prospects: CARE and CRS, principal partners in this IR for water and sanitation activities, made good progress against their respective work plans, and MERTU-CDC made notable progress as well. Also, CDC, under its IAA that is providing a regional Field Epidemiology Training Program (FETP), held the second of four regional training workshops in Guatemala during the quarter.

CDC IAA Activities

CDC, through a regional IAA, is implementing a Field Epidemiology Training Program at the Master's degree level. At the end of the two-year program, participants will form a cadre of epidemiologists available to carry out emergency response work. Three epidemiologists each from Costa Rica, El Salvador, Guatemala, Haiti, Honduras, Nicaragua, and the Dominican Republic are participating in the two-year training program. The second of four regional training workshops was held in Antigua, Guatemala over May 2–4, 2001. This course centered on data collection and analysis in emergency and disaster situations and public health. Each of the countries sent one to



Dr. Eric Noji, CDC's world renowned disaster epidemiologist, presents data on the role of the epidemiologist in response to emergencies and disasters. "The epidemiologist has the responsibility of finding out what are the best ways for people to prepare for and respond to disasters."



Dr. Gloria Suarez, CDC-El Salvador resident epidemiologist, describes how the FETP program was helpful in the response to the January and February 2001 earthquakes. The first of the FETP's four workshops was held in Nicaragua in September 2000. That initial training created a pool of regional epidemiologists that was called upon to put its new skills to work in El Salvador.

two trainees to El Salvador after the earthquakes to help with the disaster and to receive some hands-on training with the disasters. The FETP will be completed in May 2002.

The remaining two workshops will address communication and advanced epidemiology and the measuring of health effectiveness of epidemiology applied to disasters and emergencies.

IR 3.1 Local malaria prevention and control programs strengthened

MERTU-CDC is the main partner in this sub-IR. MERTU-CDC has four results for this activity: (1) the distribution of insecticide-treated bed nets (ITN) in high risk malaria villages; (2) improved malaria case detection and treatment among lab workers in the affected health areas of Ixcán, Izabal and Escuintla; (3) epidemiological surveillance; and (4) monitoring and evaluation. MERTU-CDC 's progress to date includes:

Result #1 – Bed nets:

- Bed net production has been completed. A total of 11,275 units were produced by local microenterprises. To date 8,070 bed nets have been impregnated and delivered as follows, 3,994 in Ixcán, 1,500 in Izabal (El Estor), and 2,576 in Escuintla (Tiquiste).
- Delivery of bed nets to date:
Ixcán: No. Communities 23 No. Homes 1,227 (10 extension and 13 study Communities).
Izabal: No. of Communities 1 No. Homes 360
Escuintla: No Communities 2 No. Homes 960
Comment: Delivery in 12 communities assigned to control group in the study area will be accomplished in September 2001.
- Bednet extension community promotion activities to date:
Ixcán: No. of Communities visited 36 No. Homes 1,655
Izabal: No. of Communities visited 1 No. Homes 360
Escuintla: No Communities visited 2 No Homes 960

Result #2 – Malaria case detection and treatment:

- Volunteer Collaborator (VC) training to date:
Ixcán: No. VC trained 206 No. homes covered/VC (100) 20,600
Izabal: No VC trained 112 No. homes covered/VC(100) 11,200
Escuintla: No VC trained 96 No. homes covered/VC(100) 9,600
- Malaria cases are being promptly diagnosed and treatment delivered by trained personnel. Febrile survey and treatment of positive cases continues. In addition to active surveillance, passive case detection has been strengthened through the systematic supervision of volunteer collaborators.
- Twelve malaria diagnostic centers serving 179 villages are functioning.
- Training at different technical levels has been developed (vector control technicians, community health committee members, volunteers and beneficiaries).
- Activities to reduce human and environmental risk have been developed. Special attention has been given to personal safety and environmental protection measures to

prevent hazards during bednet impregnation. A specific guidebook for community level was developed and is available.

Result # 3 – Epidemiological surveillance:

- Computer facilities have been installed at Vector Control Offices and computerized data entry is underway. This system is producing the official E-1 form and monthly reports of the status of malaria at the local level.
- Computer program: cumulative results to May 17, 2001:

In the 26 study communities in Ixcán

No. febrile cases entered 643; 77 cases Positive: 58 P. vivax and 15 P. falciparum; 4 mixed infections. No. Cases treated; 77.

In El Estor:

No. febrile cases entered 424; 52 cases positive.

- Five additional diagnostic centers with microscopes and solar panels have been established to expand coverage of malaria diagnosis.

Result # 4 - Monitoring and Evaluation

This result tracks the impact of the impregnated bed net activity that will be measured in the 26 communities in Ixcán. It also reports on findings with respect to vector monitoring, malaria morbidity studies and entomological analysis.

Selective Control Measures and Malaria Vector Population Studies:

- Anopheline density: Monthly studies through June 2001 in the 26 study communities showed that the vector population was composed of *Anopheles darlingi* 37.5% (n=2345), *An. Vestitipennis*, 41.2% (n=2578), *An. Albimanus*, 7.1% (n=446, *An. Pseudopunctipennis*, 0.4% (n=88), and *An. Apicimacula & Punctimacula*, 13.4% (n=843).
- Until this assessment was conducted the MOH vector control activities were operating on the assumption that *An. albimanus* was the only vector species present in Ixcán since vector behavior differs among species. Modified interventions, such as impregnated bed nets, must be applied and evaluated to decrease malaria transmission.
- Malaria morbidity studies: During the quarter to May 2001 four additional cross sectional surveys were completed in the 26 study communities in Ixcán. Approximately 1,090 houses were surveyed. These studies show that the point of prevalence for malaria is 93.3 cases per 1000 inhabitants.
- Active surveillance of febrile illnesses is underway. Four febrile studies were completed, 1,650 houses were surveyed.
- Entomological analysis: Studies of the malaria transmission risk factors in the 26 communities of Ixcán conducted between November 2000 and January 2001 (prior to bed net distribution) has allowed the project to rank the communities based on parasite incidence. The community with the highest incidence had 640 cases of parasites per 1000 inhabitants down to the lowest at 39 cases per 1000 (median=172). Community population is fairly equal among the 26 communities with the highest being 572 inhabitants and the lowest 198 (average number of inhabitants=384). Based on these risk factors, the study communities were separated into three clusters, divided between intervention and control communities. Intervention communities

received bed nets in April 2001; control communities will receive them in September 2001.

- A geographic referenced information system has been constructed to monitor malaria transmission risk factors, and to monitor distribution of malaria cases, volunteer collaborator coverage, mosquito vector distribution, house construction, population density and other epidemiologically relevant factors.

IR 3.2 Household water and sanitation programs established in selected areas

CARE and CRS are the principal partners in this sub-IR with a technical support role being played by MERTU-CDC.

CARE

CARE's objective for this IR is by August 2001 to have reduced by 15% the prevalence of diarrheal diseases in children less than 5 years of age in 14 rural communities in 5 municipalities of Alta and Baja Verapaz. To achieve this result, CARE is making available community water systems and latrines to 6,029 beneficiaries (1,176 families), and promoting adequate hygiene practices. CARE is constructing 12 water systems that will serve 14 communities, distributing 1,484 water receptacles for household treatment and storage of water, and constructing 1,472 latrines. Cumulative progress to date is:

- Four of twelve water systems that will serve 14 communities have been completed and inaugurated. The rest are under construction at 30% to 98% complete.



April 26, 2001, Cojila, Coban. CARE inaugurates the first water system serving 701 families in the communities of Cojila and Sotzil. CARE's deputy director (left to right) Jeannie Zielinsky, and CARE-Coban regional director Boris Chinchilla, turn on the first standpipe with Debbie Kennedy, USAID Deputy Director and Mary Ann Anderson, USAID Office of Health and Education Chief.

- 1,484 water receptacles have been distributed – target met.
- Completed 1,398 latrines (95% of target).
- Sewer systems completed: Starting this quarter, CARE is reporting gravel-filled sewer systems completed at the household level in 10 communities receiving water systems. To date, 907 household sewer systems have been constructed in 9 communities.

- Hygiene practices education initiated with the training of 79 community informants from the 14 target communities.
- Monitoring of water quality is underway in coordination with CDC/Mertu.

CRS

CRS' objective for this IR is to reduce the incidence of diarrheal disease, especially in children under five years of age, by improving household water and sanitation conditions, and hygiene knowledge and practices. Expected results for the two year program are: (a) construct or rehabilitate 28 small community water systems; (b) construct/rehabilitate 110 wells; (c) construct 1,942 latrines; (d) distribute 6,600 water receptacles with chlorine disinfectant. CRS is working with three local counterparts, the Social Pastorate of Ixcán, the Social Pastorate of the Verapaces, and Caritas of Zacapa. CRS provides technical supervision and guidance to the counterparts in addition to the financial resources and materials to carry out the work.

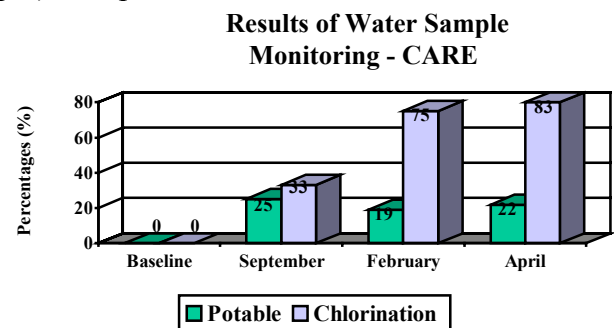
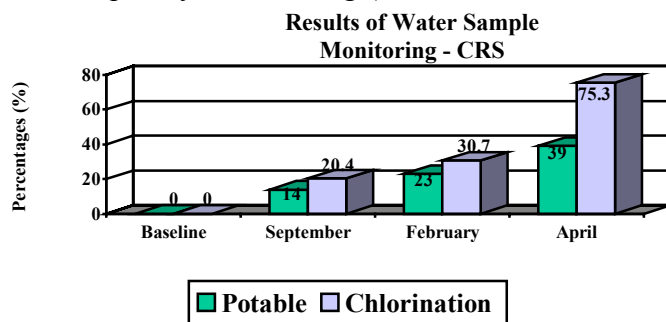
Cumulative progress to date for CRS is:

- 26 new water systems under construction, 13 complete (50% of target).
- 99 communal wells rehabilitated/constructed (90% of target).
- 4,311 5-gallon receptacles distributed and chlorine doses distributed in 60 communities (65% of target).
- 2,635 pit latrines and dry composting latrines installed (125% of target).
- 218 community facilitators identified and trained in hygiene education (97% of target).
- In coordination with CDC health and hygiene practices monitoring and evaluation plans being followed up.
- Monitoring activities for water quality were carried out with CDC/MERTU.

CDC

As external advisor for CRS and CARE, MERTU/CDC is providing technical assistance for water quality and diarrhea morbidity monitoring and evaluation.

Another round of sample collection and analysis from water sources and water receptacles was carried out in April. CDC sampled 87 CARE families and 83% were adequately chlorinating (residual level of 0.5 to 1.0 ppm), compared to 75%



sampled in February 2001, and 33% sampled in September 2000. Meanwhile, the data for CRS show that of 225 homes sampled in April 2001, 75% were chlorinating properly, whereas in February 2001, 31% of households were chlorinating properly, compared to

20% in September 2000. Potable refers to samples free of fecal coliforms at the rate of <1/100 ml of water. Even chlorinated samples often contained fecal coliforms as a result of incorrect and under-dosage of chlorine. The following graphs show the effects of training and the trend toward improvement in chlorine application and in potability over the relatively short life of the project.

IR 3.3 Capacity to prevent and control infectious diseases enhanced

- MERTU/G-CDC and Ministry of Health (MOH) officials have prepared and agreed on a plan for a “National Offensive for the Prevention and Control of Dengue.” The CDC is assisting the MOH to prepare an epidemic response plan, through two objectives: (1) strengthening and decentralizing the national laboratory capacity in order to provide prompt diagnosis of dengue infections. This will entail training of 7 MOH technicians from laboratories around in the country, and the equipping of two regional laboratories for dengue diagnostic work; and (2) is enhance the capacity to promptly treat cases of dengue and dengue hemorrhagic fever. To accomplish this, 1,150 medical and auxiliary health personnel will receive training. Cumulative progress to date: (1) a training program was carried out by two doctors from CDC’s Dengue Branch in Puerto Rico in April 2001, for MOH technicians from around the country. Also, equipment for the two labs has been identified and ordered with delivery expected during the next quarter. (2) As of the end of May 2001, 936 of the 1,150 health technicians have received training.

Financial Summary

As of June 30, 2001, the Mission had sub-obligated 99% of funds under the three intermediate results; i.e., \$27.90 million committed with implementing agencies (see following table). Accrued expenditures for the quarter for all three IRs reached 90% i.e., \$25.3 million (see graph). The Mission's accumulative expenditure target for all three IRs for the quarter was 93% or \$26.04 million.

When considering only CACEDRF funds for IR1 and IR2, the total sub-obligation percentage is also 99%. The accrued expenditures for these two IRs is \$22.86 million, or 91.44 %, against the quarter's expenditure target of \$23.34 million, or 93%. IR1 continued to exceed its targets, while IR2 was virtually on target. The mission is optimistic with respect to meeting fourth quarter targets and the end of project targets in December 2001.

